FIG. 1

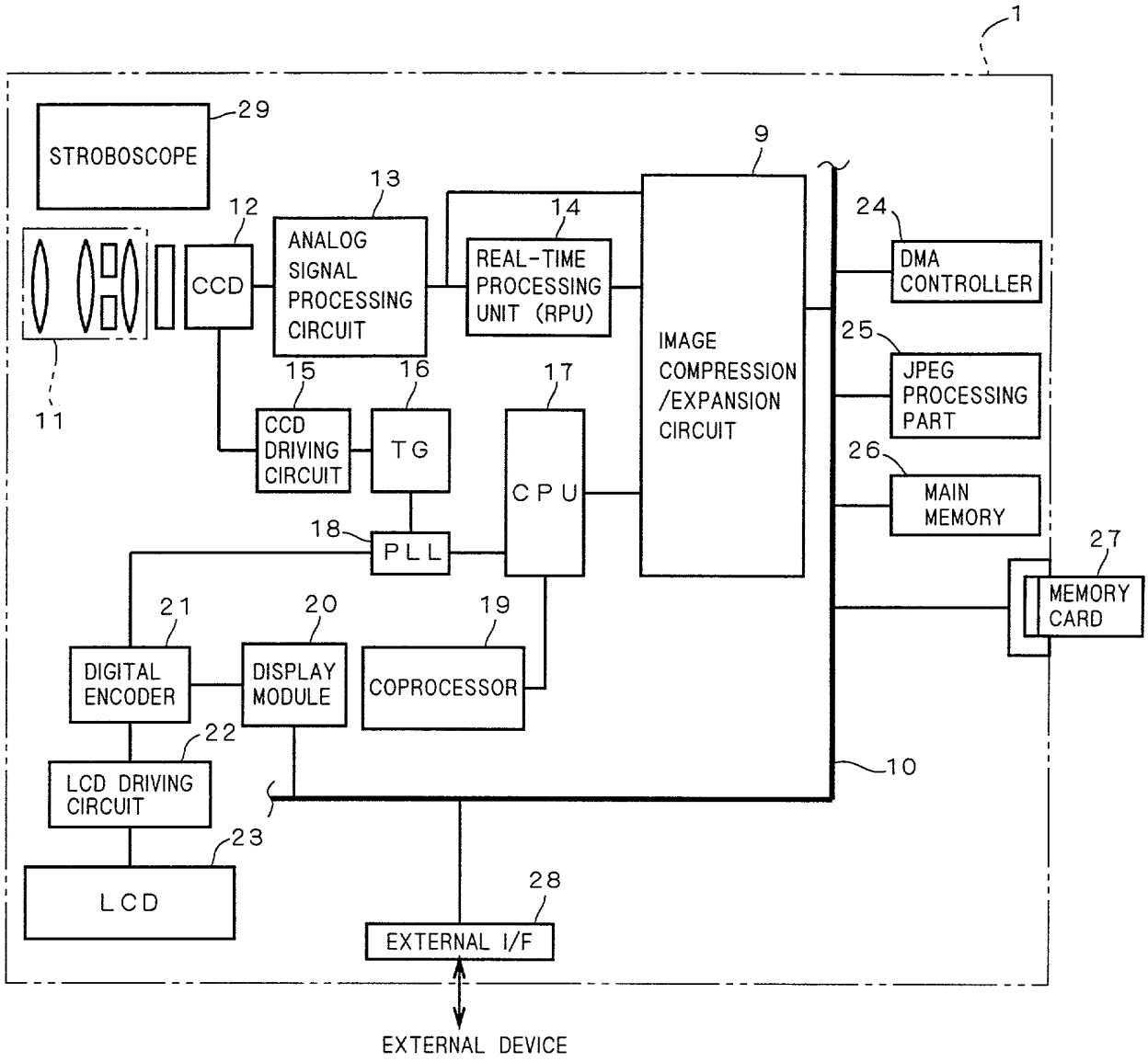
1
STROBOSCOPE
29
9
13
12
14
24
ANALOG SIGNAL PROCESSING CIRCUIT
REAL-TIME PROCESSING UNIT (RPU)
DMA CONTROLLER
CCD
IMAGE COMPRESSION /EXPANSION CIRCUIT
25
JPEG PROCESSING PART
11
15
16
17
CCD DRIVING CIRCUIT
TG
CPU
26
MAIN MEMORY
18
PLL
27
MEMORY CARD
21
20
19
DIGITAL ENCODER
DISPLAY MODULE
COPROCESSOR
22
LCD DRIVING CIRCUIT
10
23
LCD
28
EXTERNAL I/F
EXTERNAL DEVICE

FIG. 2

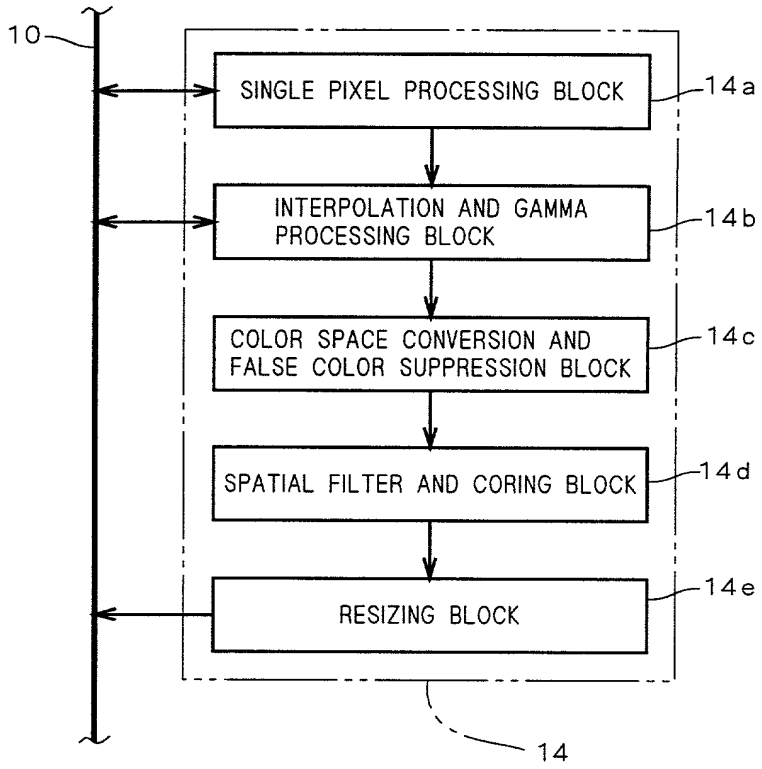

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FIG. 3

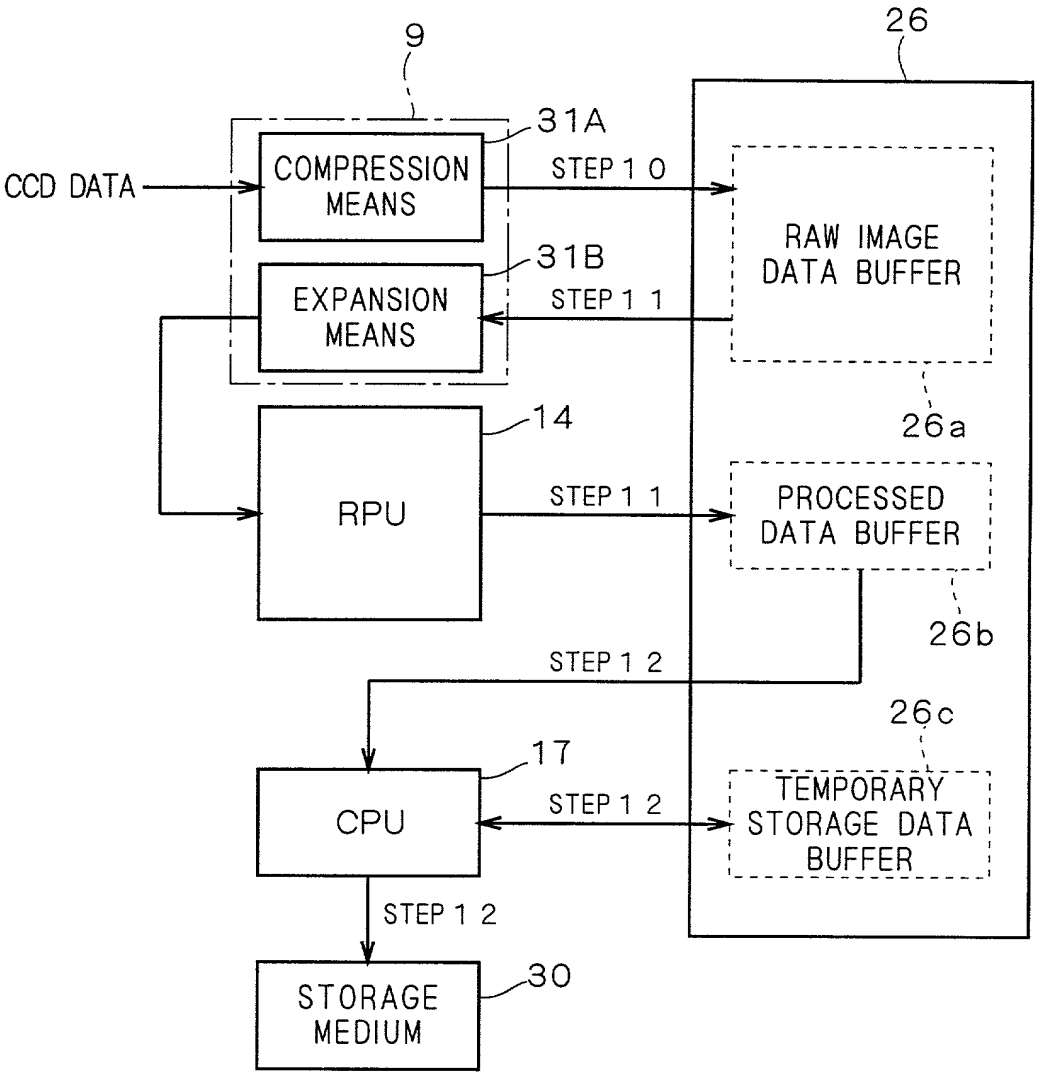
9
26
31A
CCD DATA
COMPRESSION MEANS
STEP 1 0
RAW IMAGE DATA BUFFER
31B
EXPANSION MEANS
STEP 1 1
26a
14
RPU
STEP 1 1
PROCESSED DATA BUFFER
26b
STEP 1 2
26c
17
CPU
STEP 1 2
TEMPORARY STORAGE DATA BUFFER
STEP 1 2
STORAGE MEDIUM
30

FIG. 4

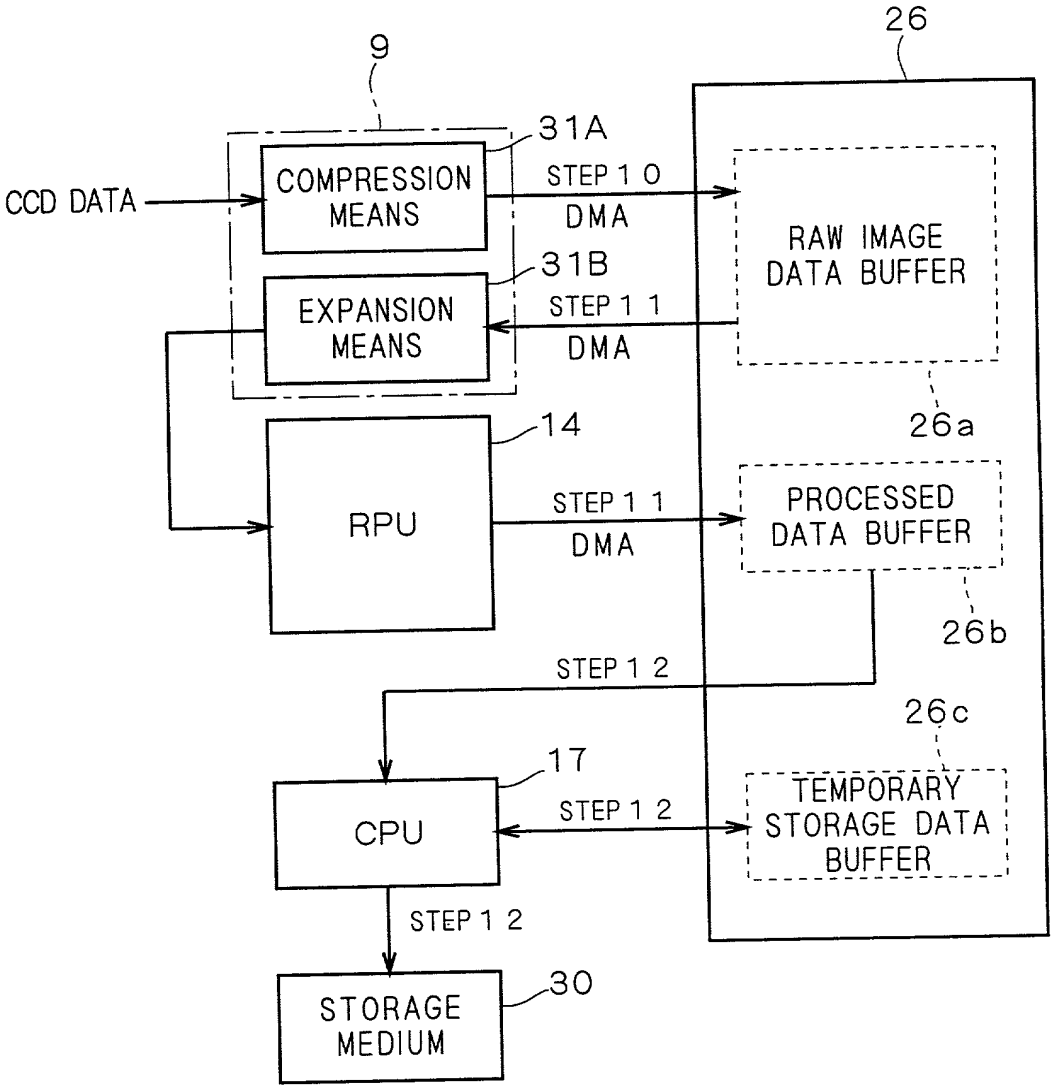

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FIG. 5

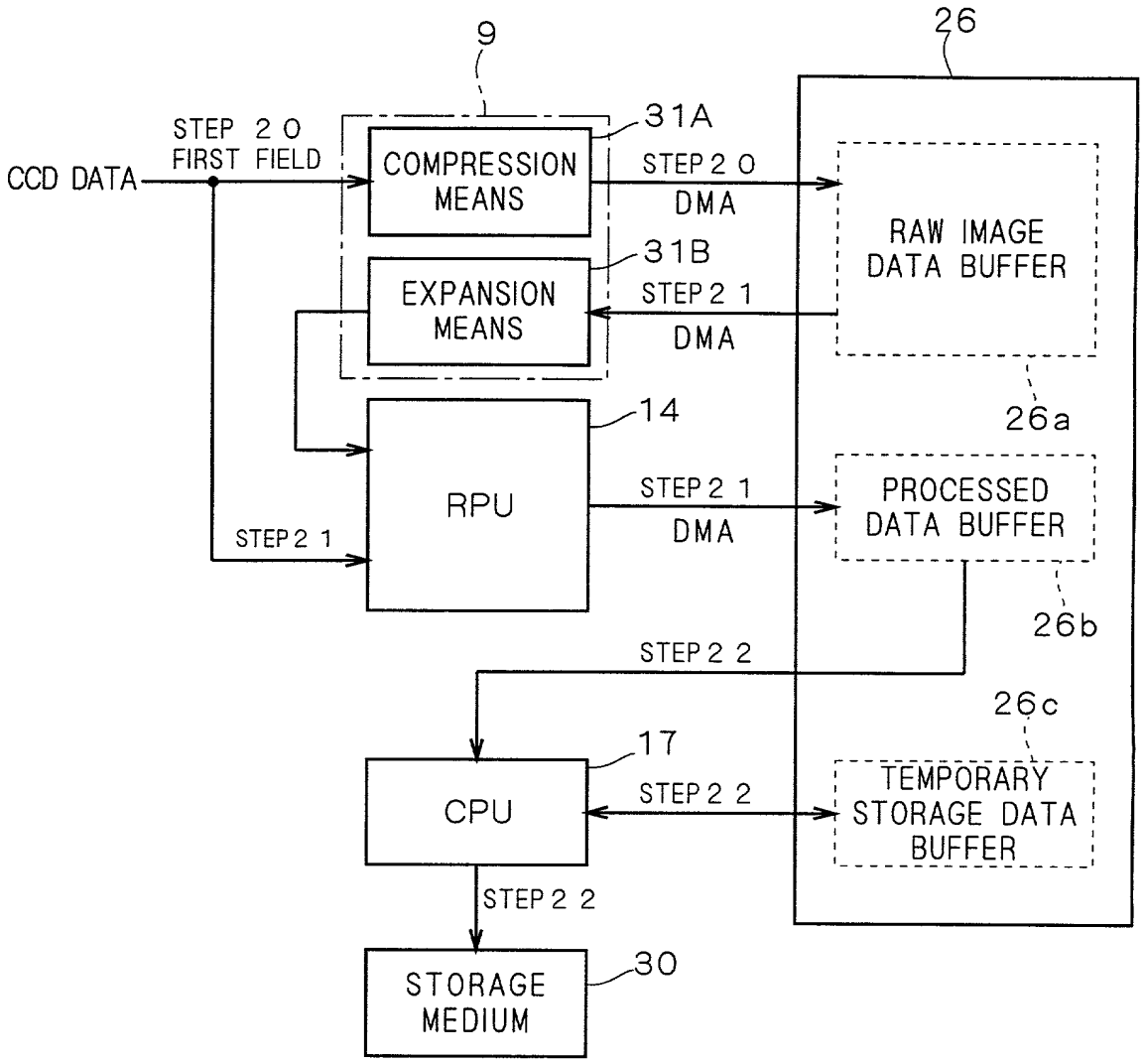
9
26
31A
STEP 2 0
FIRST FIELD
CCD DATA
COMPRESSION MEANS
STEP 2 0
DMA
RAW IMAGE DATA BUFFER
31B
EXPANSION MEANS
STEP 2 1
DMA
26a
14
RPU
STEP 2 1
DMA
PROCESSED DATA BUFFER
STEP 2 1
26b
STEP 2 2
26c
17
CPU
STEP 2 2
TEMPORARY STORAGE DATA BUFFER
STEP 2 2
STORAGE MEDIUM
30

FIG. 6

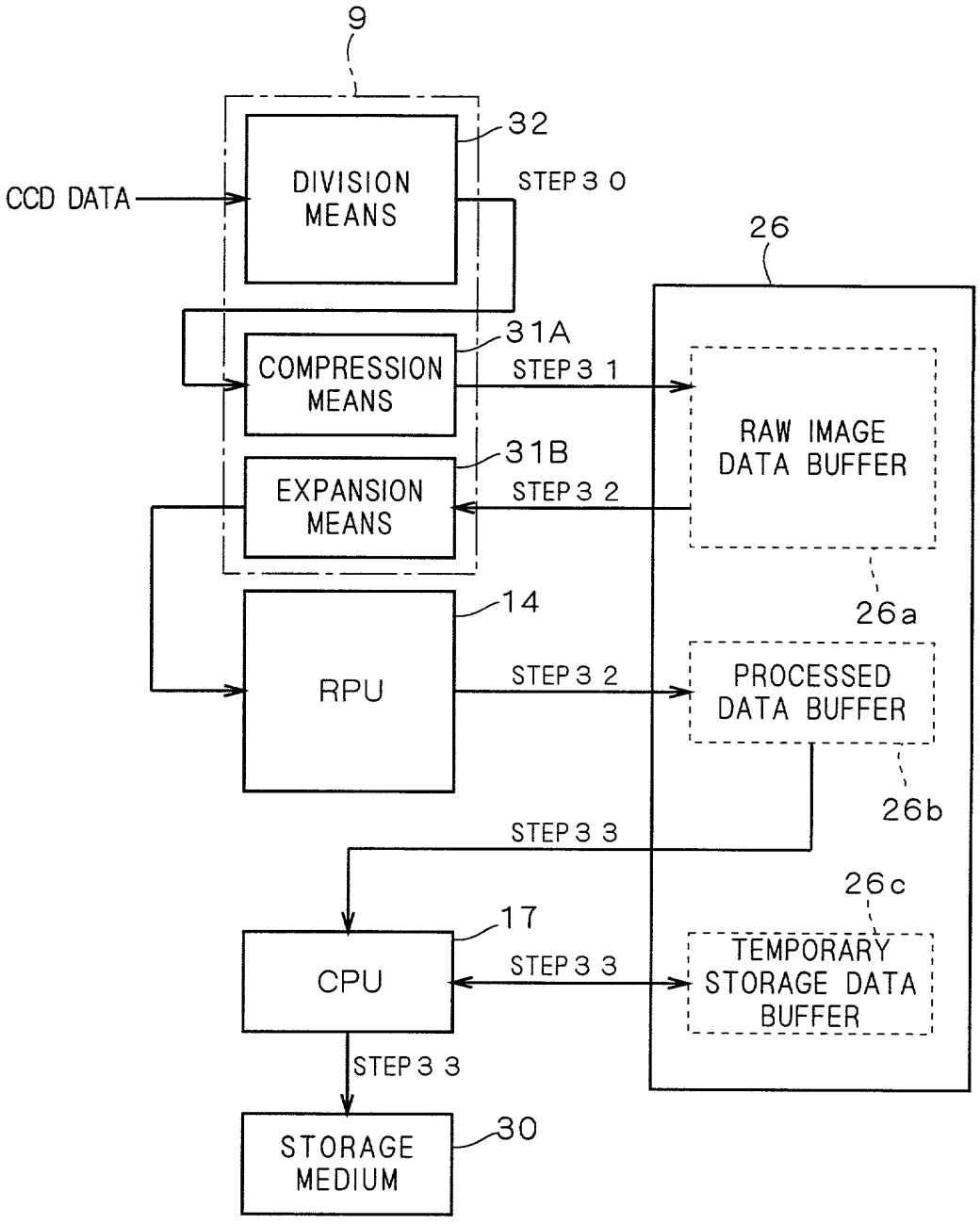

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FIG. 7

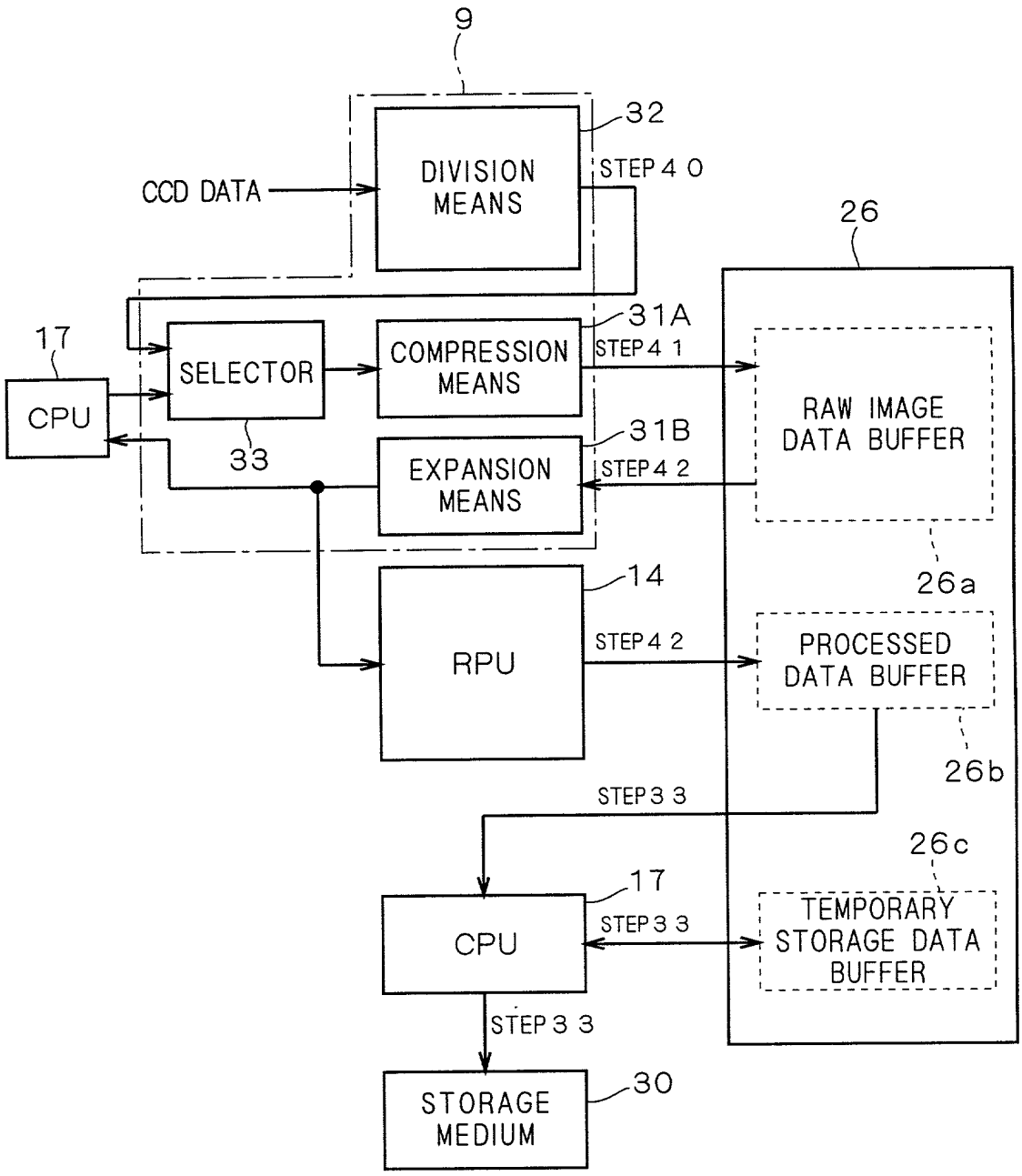
9
32
DIVISION MEANS
CCD DATA
STEP 4 0
26
17
CPU
SELECTOR
33
COMPRESSION MEANS
31A
STEP 4 1
RAW IMAGE DATA BUFFER
EXPANSION MEANS
31B
STEP 4 2
26a
14
RPU
STEP 4 2
PROCESSED DATA BUFFER
26b
STEP 3 3
26c
17
CPU
STEP 3 3
TEMPORARY STORAGE DATA BUFFER
STEP 3 3
STORAGE MEDIUM
30

FIG. 8

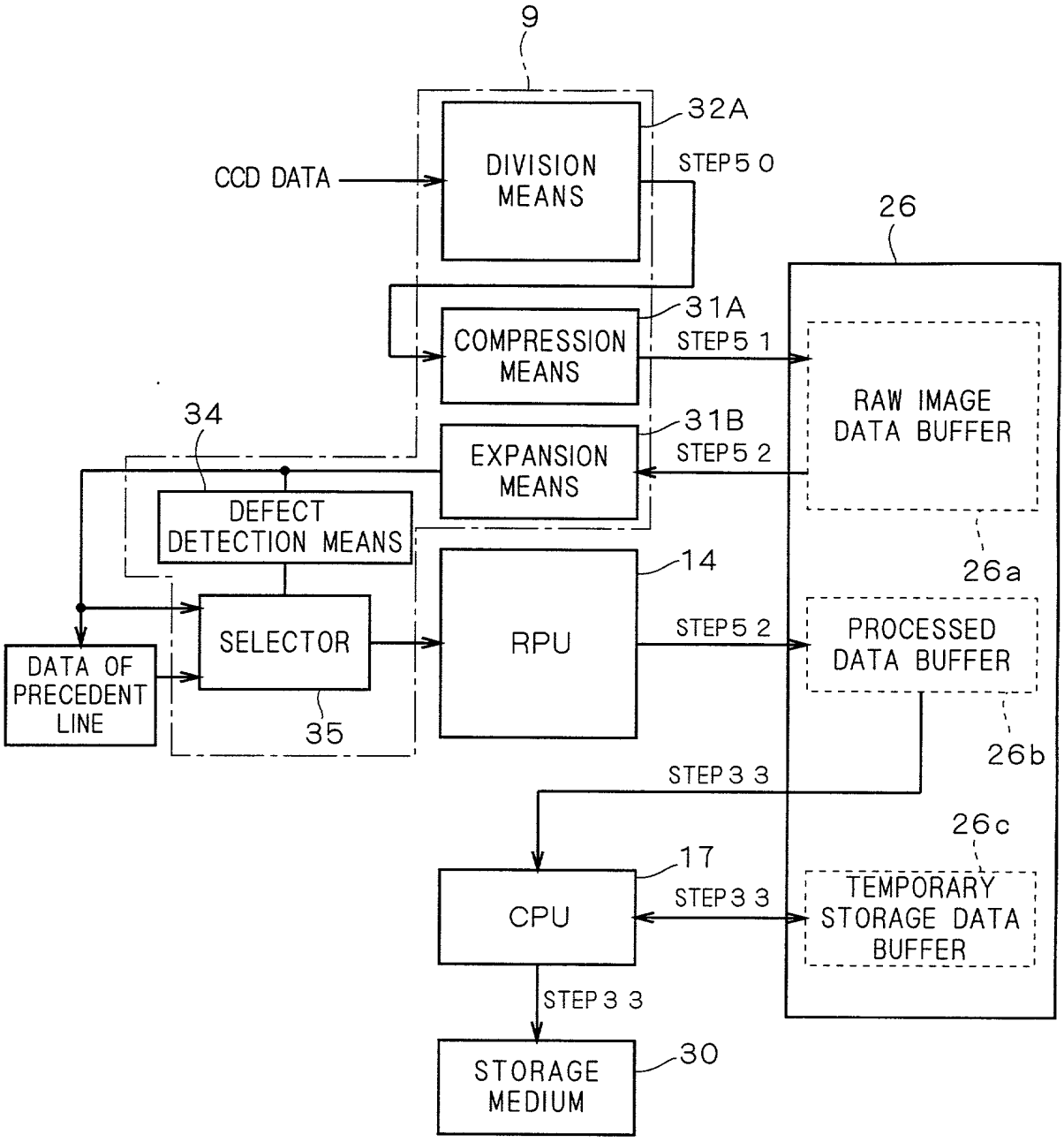
9
32A
DIVISION MEANS
CCD DATA
STEP50
26
31A
COMPRESSION MEANS
STEP51
RAW IMAGE DATA BUFFER
34
31B
EXPANSION MEANS
STEP52
DEFECT DETECTION MEANS
14
26a
SELECTOR
RPU
STEP52
PROCESSED DATA BUFFER
DATA OF PRECEDENT LINE
35
26b
STEP33
26c
17
CPU
STEP33
TEMPORARY STORAGE DATA BUFFER
STEP33
STORAGE MEDIUM
30

FIG. 9A

CALCULATE DIFFERENCE BETWEEN ADJACENT PIXELS

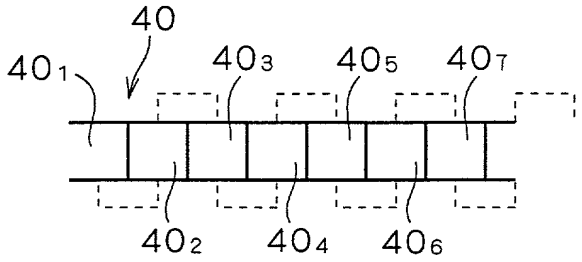

FIG. 9B

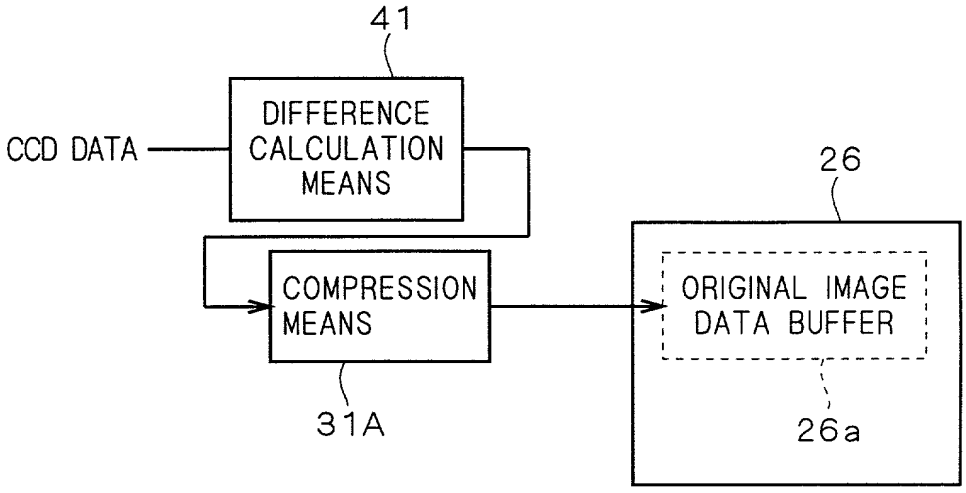

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FIG. 10A

CALCULATE DIFFERENCE BETWEEN ALTERNATE PIXELS

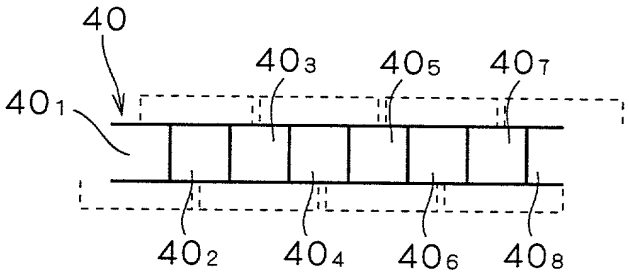


FIG. 10B

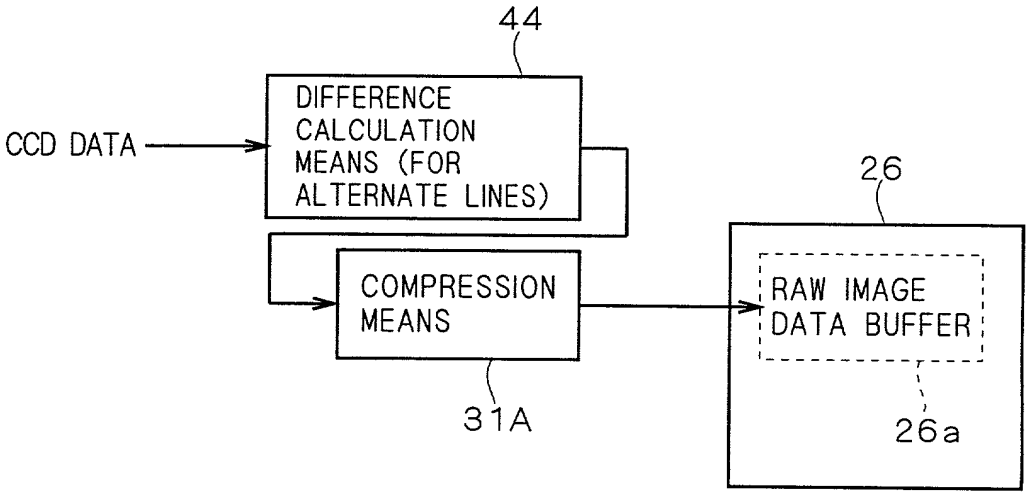


FIG. 11A

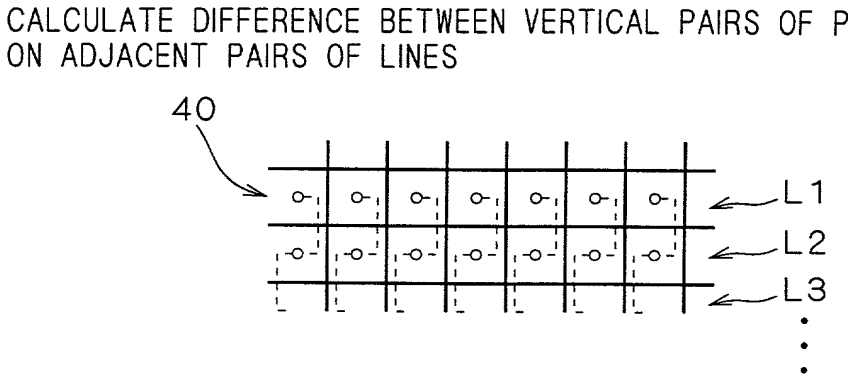
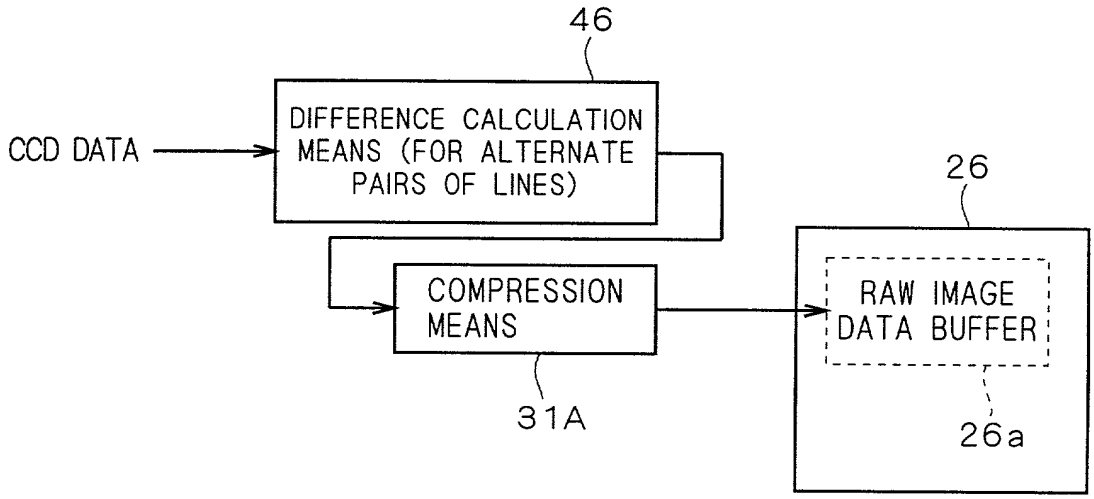


FIG. 11B



US2005/0052801

FIG. 12A

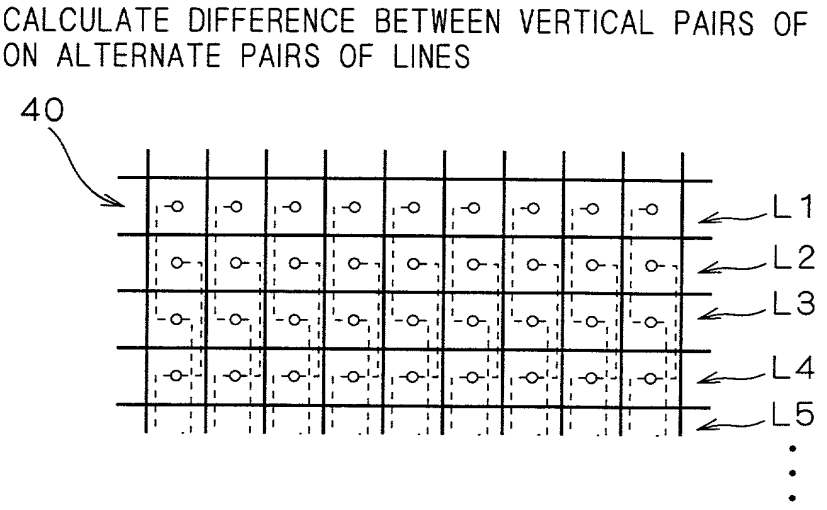


FIG. 12B

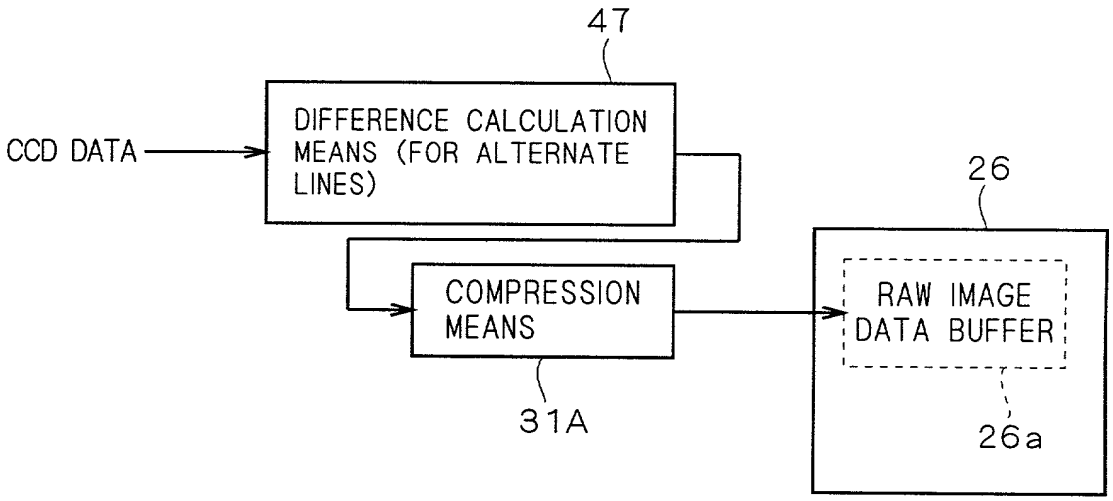


FIG. 13

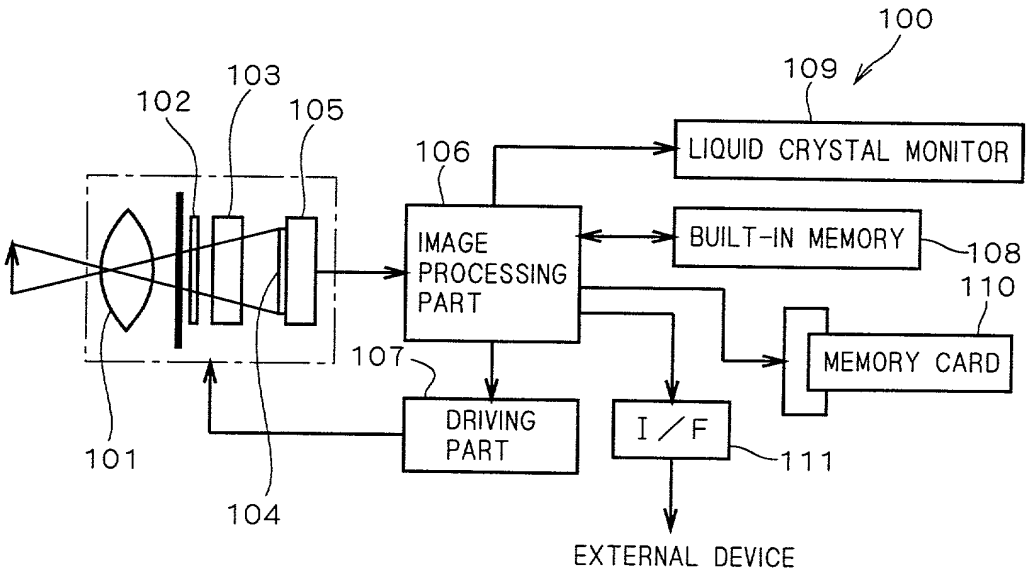


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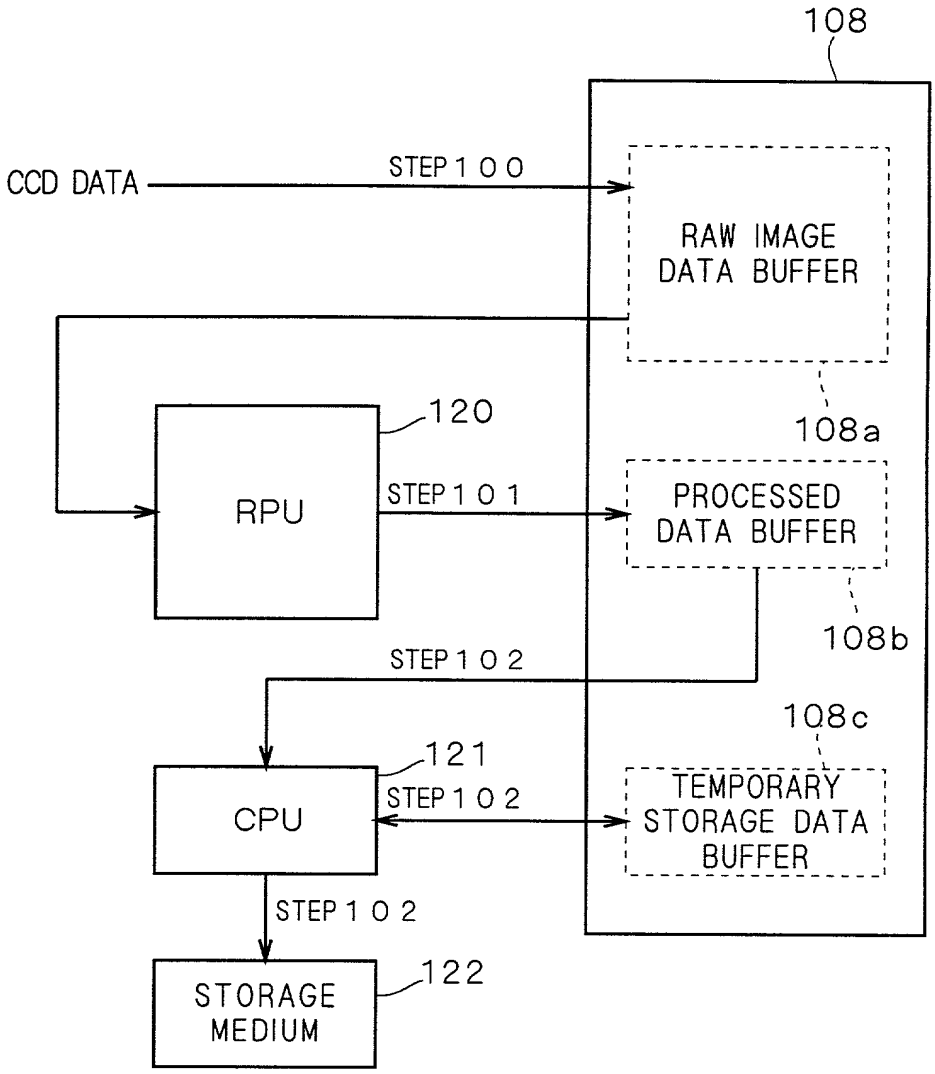
FIG. 14


108
CCD DATA
STEP100
RAW IMAGE DATA BUFFER
108a
120
RPU
STEP101
PROCESSED DATA BUFFER
108b
STEP102
108c
121
CPU
STEP102
TEMPORARY STORAGE DATA BUFFER
STEP102
STORAGE MEDIUM
122